# Different household formation systems in Hungary at the end of the eighteenth century: variations on John Hajnal's thesis

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# Different Household Formation Systems in Hungary at the End of the Eighteenth Century: Variations on John Hajnal's Thesis

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**Abstract:** John Hajnal's pathbreaking paper about the European marriage patterns and his household formation theory provoked high interest between the researchers even far beyond the border of the historical demographic research. Examining them through the Hungarian sources we can say that both the declared factors and variables of household formation and their regional strength and territorial distribution cannot be interpreted unanimously and adequately with the rules established by John Hajnal. Maybe it is better not to think in universalistic regimes but, moreover, adapt a regional and temporal frame of reference. Such 'grand theories' as John Hajnal's household formation system model fulfil much more the role to provoke further research then the key to interpret the institutions arranging the structure and processes of population and society.

## 1. Introduction

Demography is one of the disciplines which is particularly suitable for the use of models; this may be because the main characteristic of demographic research is the search for empirical regularities, and its events and entities are unambiguously numerical (Coale-Trussel 1996). However, the quality of the established model depends on how thoroughly the empirical research for model building was exploited, and how effectfully can be exploited the model for further empirical investigations.

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Dealing with the history of family and household we often feel ourselves in a controversial situation. Browsing through the case studies our eyes are permanently hit by brilliant methodological brain-waves, and it is possible to learn from them previously unimaginable details of the preindustrial family relations or individual lifecycles. However, when we become familiar with the demographic microhistory of a local community our conclusions will be valid for just a region of some square kilometres and for some hundred families. The representativity of such studies is often questionable - taking them as basis we cannot really describe the demographic characteristics and processes of a larger region.

When we turn to the theoretically oriented macro studies - regarding the different household formation models - for which a thorough analysis, and the solid database are frequently missing - arguments are too often based on scattered and contradictory evidences. Usually the functioning of society and the population processes are oversimplified in themselves - otherwise the model-building would be nearly impossible for the authors. On the other hand, the theories and models usually have great interpretative force, and can lead us to interesting correlations and conclusions.

Of course, the models are descriptive and describe aggregate, not individual behaviour, nevertheless, without the necessary simplifications, they used to be very complicated. Dealing with the contemporary household and family modelling J. Bongaarts lists six demographic factors that determine the composition of nuclear families (nuptiality, fertility, adoption, mortality, migration, divorce) and four more factors that determine how nuclear families and the remaining individuals in the population combine to form households (headship prevalence, household formation, -transition and -dissolution). It is needless to say: the author concentrated only on the demographic side of the household and family formation complex, the relationships between household characteristics and socio-economic, cultural, psychological, kinship determinants are omitted from the list (Kuijssten-Vossen 1988). And this is related only to the modern nuclear family. The families and households of preindustrial times both in their structure and in their functions were much more complicated. They were domestic, family and kin groups, cultural (sometimes even military and religious) entities and also microeconomic units as producers of goods and services at the same place and at the same time.

In the model building of the historical household, family and marriage there are two traditions to be seen. John Hajnal (1965, 1982) starts from the tradition of demographic theories and contemporary demographic analyses. Peter Laslett (1972, 1977, 1983) - just as Richard Wall (1983, 1995) - represents the rational tradition of European historical demography deeply oriented toward the search for empirical regularities. First of all they are dealing with the characteristics of households, families and marriage patterns suitable for practical (empirical) usage and they avoid - above all Wall - the deep and shallow theories. They

also somehow try to include (or as they called it: 'set of characteristics' or 'criteria') part of the not exactly demographic factors (kinship, labour organization, welfare functions) into their model. All their suggestions - and they have quite a few of them - have the form of simple statistics, proportions and ratios, not declaring rules, which are unequivocal and clearly understandable. Probably for this reason it is not quite accidental that above all John Hajnal's theories provoked a broader interest among the researchers even far beyond the border of historical demographic research. Peter Laslett's domestic group models as well as Richard Wall's analyses on the historical development of the European family called for attention among the narrower circles of family historians which were oriented towards case studies[1]. We too had the intention first of all to deal with John Hajnal's household formation theory but sometimes it was unavoidable to refer to Peter Laslett's domestic organization models.

## 2. Hajnal and his critics

More than thirty years ago John Hajnal published his famous and pathbreaking paper about the European marriage patterns (Hajnal 1965). His second major contribution to the topic was the »Two kinds of preindustrial household formation systems« (later called 'System') first published in 1982[2]. The author regarded this paper the sequel to the previous one we are therefore dealing the two essays as separate pieces of one compact theory. In the introduction of the 'System' John Hajnal clearly described the topics of his paper: 'to compare modes of behaviour that result in the formation of households of various kinds, as well as to compare the results of that behaviour' (p. 449). He also clearly described its limits. He could deal with the seventeenth and eighteenth century Western European countries only, and the comparable Asiatic regions which still remained in a preindustrial state, as at that time relevant published household data for other territories like Southern Europe or Finland did not exist in sufficient quantity. He even placed his attention on data covering populations of 5000 or more instead of on data from small individual

[1] This statement is hardly valid for other writings of Peter Laslett - his analysis of preindustrial English society as well as the uniqueness of the Western European nuclear family model and its economic and social connotations provoked sharp discussions also among the different groups of social historians (see e.g. Seccombe 1992).

[2] The much better known and cited paper which Hajnal published under the same title in the collective essay volume of »Family forms in historic Europe« one year later in 1983 was an abridged version of the former one. Several important highly stimulating and highly provocative findings were left out from the second version. It is a regrettable fact while some of the authors are sharply criticizing the original essay the majority of historical demographers refer first of all to its second, shortened version.

communities. He excluded the stem family formation (not really justifying why) and also the urban household systems. In his conclusions he was nearly always cautious and he emphasized several times that 'there are other kinds of household formation systems besides the two considered here'. Hajnal also declared that some things are missing from his rule sets: e.g. the moving out of individuals from the household or the household dissolution rules.

His basic statements, the famous household formation rules are the following ('System' p. 452). There are some common for the (I.) simple family household system:

1. late marriage (ages above 26 against 23 for men and women);
2. the neolocality (immediately after the marriage a new household is founded for the young couple);
3. before marriage, young people are frequently circulating between households as servants.

The basic rules common for the (II.) joint household system are:

1. early marriage (mean ages at first marriages are under about 26 for men and 21 for women);
2. no new household founding after the marriage, the new couple starts life in an existing household where the old generation stays in charge;
3. new households could be formed only through splitting or inheritance after the master's death.

In the case of the servanthood feeling the importance of his thesis the author went even further into the details ('System' p. 473). According to his opinion the characteristics of the service as an institution in the rural populations of preindustrial Northwest Europe can be described through the criterions below:

a) the proportion of servants in the population is large, at least 6, but usually over 10 percentage points;
b) they are unmarried;
c) a substantial proportion of young people of both sexes are servants at some stage in their lives (life cycle servanthood);
d) servants are working in the households not in domestic tasks but as an integral part of the farm labour force;
e) they are hired for a limited period on contractual base;
f) they are living as members of the master's household; and
g) they are socially not inferior in their status to that of their master.

Hajnal supposed that the two household systems resulted in different internal relationships in the family[3] and that they reacted fundamentally dissimilar on

[3] In the joint household 'the young husband's parents will often be in charge of the household. The young wife is under the dominance of her mother-in-law at an age at which, in Northwest Europe, she would often have been in service under an unrelated

difficulties resulting from economic problems and/or population pressure. The joint family households absorbed the unemployment while in the small households of North-West Europe the proportion of adults in service increased as much as the number of delayed marriages. 'It was probably because of the service that Northwest Europe could operate with a balance between birth and death rates established at a lower level than that which prevailed in other preindustrial societies ... populations with joint household systems lack that mechanism' ('System' pp. 478, 481) John Hajnal perceptibly avoided to specify clearly the regional consequences of his rules but Peter Laslett did it. 'Western familial tendencies may in themselves have been towards factory industrialization ... [but] the Japanese, the Russians, or even the Italians and the Poles, in so far as they have adopted industrialism as a way of life, may not have been in the same position with respect to the industrial culture as the West Europeans ... neolocal tendencies were never part and parcel of the historical social structure of these societies as they have been for the West Europeans'. Clearly speaking, and as readers generally interpreted it: the NorthWest European household formation model was unique marching at the head, and 'became subject of imitation, of mimesis, on the part of other societies anxious to industrialize' (Laslett 1983. p. 559).

As it is usually occurring with every seminal contribution to a topic, Hajnal's writing divided the readers and generated believers and opponents. There was scarcely an analysis of the topic that could leave it without mention. At least four basic types of reaction can be observed. The majority of the historical demographers - first of all the case study writers in Western Europe - accepted nearly all of its statements. Some authors - first of all those who worked with the peripheral societies of Western Europe or those who were interested in the historical demography of non-European people - had more or less compatibility problems so they tried to supplement or slightly modify the rules and criterions. Let me recapitulate some of them.

Daniel Kertzer and Dennis Hogan (1991) by expressing their appreciation of the works of John Hajnal and Peter Laslett, they proposed modifications on the Mediterranean marriage pattern model of the latter author, and declared their doubts on any simple relationship with respect to marriage age. According to Francesco Benigno (1989) in preindustrial Italy and Spain at least three marriage models[4] worked alright, and he could not find any association between the early marriage and the formation of the nuclear family household. He thinks more importance should be given to economic, social, and other

mistress. Her husband may continue to have a closer relationship with his mother, who is present in the household, than with his wife'. ('System' pp. 475.)

[4] Benigno refers in this respect to the writings of M. Barbagli (»Sistemi di formazione della famiglia in Italia«, *Boletín de la Asociación de Demografía Histórica* 5 (1987): 80-127) and R. Rowland («Systemas matrimoniales en la península Ibérica (siglos XVI-XX.: una perspectiva regional«, v. Perez Moreda and D.S. Reher eds. *Demografía histórica de España* (Madrid, 1987)).

demographic factors. 'Both marriage and household patterns express the links between economy and demography, and the systems of production and social reproduction ... these links set limits and established tendencies, but ... the variability of the types of domestic organization, and the demographic values strictly linked to them, depended on different cultural modes, on diverse ideas of the family and its social role, and upon individual and family choices' (Benigno 1989. p. 185).

Katherine A. Lynch (1991) means that although John Hajnal concentrated on rural populations the European Marriage Pattern is not in conflict with the social and demographic structures of European cities and towns over a long term. She added two modifications to the model, namely (1) 'various social groups within urban settings used the two parts of the European Marriage Pattern with different levels of intensity and commitment' and (2) 'urban dwellers' practice of marriage was constrained not only by the mores and beliefs of their own social group but also by the kind of urban economies in which they lived' (Lynch 1991. p. 91).

Antoinette Fauve-Chamoux (1995) published a very interesting description of the functioning of stem families in the Pyrénées, and explicitly proved the existence of them during the eighteenth/nineteenth centuries and its slow decay after 1900. She gave great importance to the inheritance system, and the rigid nonegalitarian property transmission practised there. According to her opinion the stem families as systems could be considered as the third basic form of coresident units.

Norbert Ortmayr (1995) discovered three marriage patterns in the Alps, and constructed the so called 'Alpine marriage pattern' which was strongly defined by the social stratification and the very slow progress of agricultural development (both of them related to the given ecological characteristics).

Richard Wall (1995) also solidly criticized the gaps in the Hajnal thesis. The exclusive focus on marriage he considered a weakness as it represents just one of the transition points in the life cycle, and another one the missing provisions for other possibilities notably the stem family. Wall tried to develop the household modelling and to adapt it for the practical analysis making a list of possibly analyzable characteristics (simple statistical tools: proportions and means as well as their target populations).

Beatrice Moring (1996) described a very interesting transformation in south-western Finland where a local society showing eastern type marriage patterns became 'North-Western European' in Hajnal's sense, as a result of proletarianization.

Especially interesting reactions could be observed between the scholars of two other regions - North America and the Far East (notably Japan) - which were strongly attached already from the beginnings to the mainstreams of European historical demography research.

Laurie Cornell (1987) argued that John Hajnal deliberately ignored societies with stem family formation rules when he worked out his household model. She thought it necessary to expand Hajnal's concept of household formation system to include the stem household as a third type. She also stressed the importance of the results of historical demography related to Japan where it may be possible to observe the origin of life cycle service as well as its decline.

Osamu Saito (1996, 1997) went even further and differentiated the European and the Japanese stem family. He said that although both of them had a three-generational composition, their structures were different. The proportion of coresident relatives in the Japanese stem families were more numerous and among them the laterally extended ones were limited while the downward extension was significantly more important than in the early modern West European households. According to his opinion, while the Western stem family was not far to the nuclear one, its Japanese version had affinity neither with the joint type, nor with the simple family household - it was characteristically a third (or fourth) type.

Daniel Scott Smith (1993) established a relevant deviation of Colonial North American marriage patterns from the North-West European one. However, he stressed the important prevalence of neolocalism. Taking this feature as the dominant factor of the model instead of the 'lifecycle servanthood' (not existant in this form there) he declared on this basis the Early America as part of the North-West European household formation system. Michael Haines (1996) gladly accepted this thesis but stressed the important distance between Eastern Europe and Colonial North America as contrary to similarities in their contemporary marriage patterns.

A third group of readers was sharper in its criticism. Wally Seccombe (1992. p. 186) thought it to be misleading to refer to the late marriage as a rule or custom and out of the three rules declared by John Hajnal he believed 'only the second pattern' can be 'normatively upheld'[5] but the greater part of his criticism turned against Peter Laslett's interpretations and the uniqueness of the Western European family model. Jack Goody was even more severe towards Hajnal. He declared Hajnal's model and the uniqueness of Western European society and household structure a myth in several points: the importance of servanthood, the existence of an institution of provision for aged poor people, and the balance keeping ability between birth and death rates. He did not even regard as valid the general contrast ('and if valid, for nots not so important') between Northwestern Europe and the Asian societies. According to his opinion Hajnal "overstresses the actual differences", "the data do not altogether justify such a sharp dichotomy" and "it is not clear how these differences, real or supposed, inhibited or advanced the development of capitalism, industrialization, or modernization" which are central themes behind the theory of the dominance of the nuclear family household (Goody 1996. pp. 14, 17).

[5] According to Seccombe's interpretation »a couple in charge of their own household after marriage« (Seccombe 1992. pp. 294).

Verbally the magnificent summary of family history research (Burguiére 1996) was not so sharp but in our opinion French historical demographers went even further in concluding that instead of retaining Hajnal's two and Laslett's four models, it seems more profitable to return to the three basic models defined by Le Play: the nuclear, the communitarian and the stem family (Burguiére 1996. p. 46)[6]. According to André Burguiére and Francois Lebrun on an European scale it would seem more useful to distinguish between forms of family organization by their cultural peculiarities rather than their geographical location (or straightly translating the sentence: it's not useful to divide the family forms by geographic lines).

Finally there was a particular and very silent form of reaction. It was interesting to see that an important group of authors - professional demographers dealing with the modelling of present day households - showed a nearly complete ignorance regarding the Hajnal thesis and the debate around it (Burch-Matthews 1987, Keilman-Kuijsten-Vossen 1988, Bongaarts-Burch-Wachter 1990, Burch 1995) reinforcing the belief that the cooperation between the researchers of the past and the present is not perfect enough yet or at least has not reached the level where it should be.

## 3. John Hajnal and the marriage and household system of pre-industrial rural Hungary

For a Hungarian scholar of historical demography the debate on the marriage and household formation systems for several reasons seems rather exciting. In the first place, the topic (and the debate) is interesting for us 'per se' - as it concerns one of the most important problems of our social and demographic history. Secondly, it is interesting due to the fact that it clearly indicates the place of Hungary on the historical demographic map of Europe (and the World) belonging to the eastern hemisphere. Moreover, the data of historical Hungary are mentioned on several places of the 'System' and served as statistical arguments to support the differences between the eastern and western household formation systems. So, for the next few pages we very briefly try to confront the demographic data we know about the history of Hungarian population with the rules described by Hajnal. Following the author we too are concentrating exclusively on the rural population - which consisted of about 85 percent of the contemporary total.

[6] Cf. Burguiére, A. »Pour une typologie des formes d'organisation domestique de l'Europe moderne (XVIe-XIXe siécles)«, *Annales E.S.C.* (41) 1986. No. 3, 639-655. pp.

### 3.1 A general view

How do national figures of pre-industrial Hungary fit into Hajnal's rules? According to the joint family specifications such a population has to be characterized by early marriages (Rule 171). The Hungarian national data in 1777 show 22,5 respective 20,5 years of age for males and females as average age for their first marriage. This is in accordance with the rules. There must be an interval between the (male) age at marriage and the becoming head of a household (Rule 1/2) - this also seems correct for the major part of the rural society of pre-industrial Hungary (Faragó 1995). But there are problems in the case of Rule 1/3: how a household headship is obtained. In the literature we could find descriptions as well as case studies for not only those examples given by Hajnal (through inheritance and fission onto smaller - partly also joint - households) but for numerous cases in which the new household was formed through neolocalism (the son moved out of the paternal household after his marriage) or the splitting resulted from nuclear family households.

In the case of servanthood the problem seems even more complicated. The Hungarian situation almost fits into the rules based on Western European characteristics: the proportion of servants is little above 6 percent in the total rural population (1777), they are definitely unmarried and their place in the division of activities on the farms as well as with respect to their social status nearly completely fulfil the requirements proposed by Hajnal. Only two points are not adaptable: on the one hand, it is not quite clear to what extent the hired farmhands belonged to the 'life cycle servant' category - certainly not all of them - and on the other hand, the contemporary social status of the servants is not always clearly defined. Part of them regularly came from poor cottager families - the life cycle of the latter ones was different, they circulated between the unmarried servant - married cottager - widowed poor relative status in the course of their lives (Faragó 1995). So things are not completely clear[7]. But if we go beyond the national averages beginning to analyze the regional picture of the Hungarian population characteristics of the eighteenth century we will soon be thoroughly frustrated.

[7] If we try to make a comparison with the characteristics described by Peter Laslett (1983. pp. 526-527), the result of such an experiment will be even worse. According to his »tendencies« Hungary could be characterized by near-to-Mediterranean type households what quite does not seem realistic. Here we share the opinion of the scholars dealing with the Italian family history (Benigno 1989, Kertzer-Hogan 1991): first of all the problem is not hiding in the peculiar character of Hungary but the set of criterions suggested. They do not adequately describe marriage, family and household systems of these areas of Europe with which they are believed to be characterized.

### 3.2 A regional view

The data used in this analysis are, in several ways, relatively unusual among those sources that have been used for the quantitative study of marriage and household in preindustrial Hungary. Perhaps the most important of these is their aggregate character which allows only a rough picture of the problems - this is its main shortcoming. Yet, precisely for this character the dataset can cover the whole country with its nearly fifteen thousand settlements at the end of the eighteenth century. (In other words, taking into account the scientific capacity of Hungary in the field of historical demography we could not within the next few decades and in a reliable way analyze the whole society on a household/community/case study level not even by using sampling methods.)

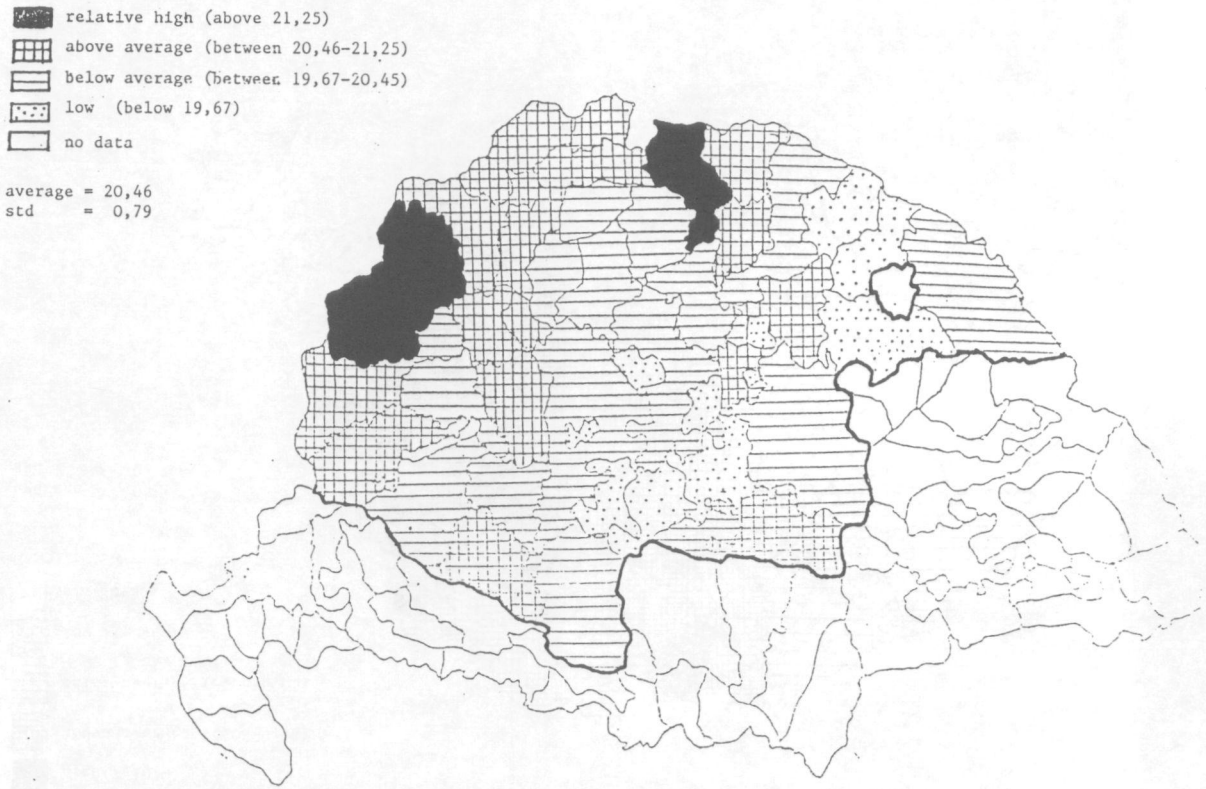
In the last decade of the reign of the well-known enlightened Habsburg queen, Maria Theresia, and during the reign of her successor, her son Joseph Und there were several population surveys in Hungary - applying the Austrian methods and practice - and there was also the first census in 1785 (followed by two revisions in 1786 and 1787 respectively). Some of the summaries of this huge statistical surveys survived on county level - in the case of the census and its revisions on village level - and partly published (Thirring 1938, Dányi-Dávid 1960). These sources seem to be quite suitable for the analysis of the most important characteristics of marriage, family and household structures in Hungary on a broad level[8]. Taking into consideration the contemporary abilities of bureaucracy (not to mention the low interest and statistical illiteracy of the county nobility who was forced to collect the local population figures) there must be serious shortcomings and omissions in the data which could endanger the results of an analysis of single settlements but on county level proportions and the regional distributions it will give to all probability a relatively correct reflection of the contemporary social and demographic realities.

If we put on a map the calculated female mean age of first marriages for 1777 (Map 1)[9] we will see an unequal distribution of marriage patterns in preindustrial rural Hungary[10]. Although the average female age at marriage is much lower in late eighteenth century Hungary than those characteristic for contemporary Western Europe (Flinn 1981) it is still not dominated by teenager marriages. We can contemplate a couple of different regions as to the age of

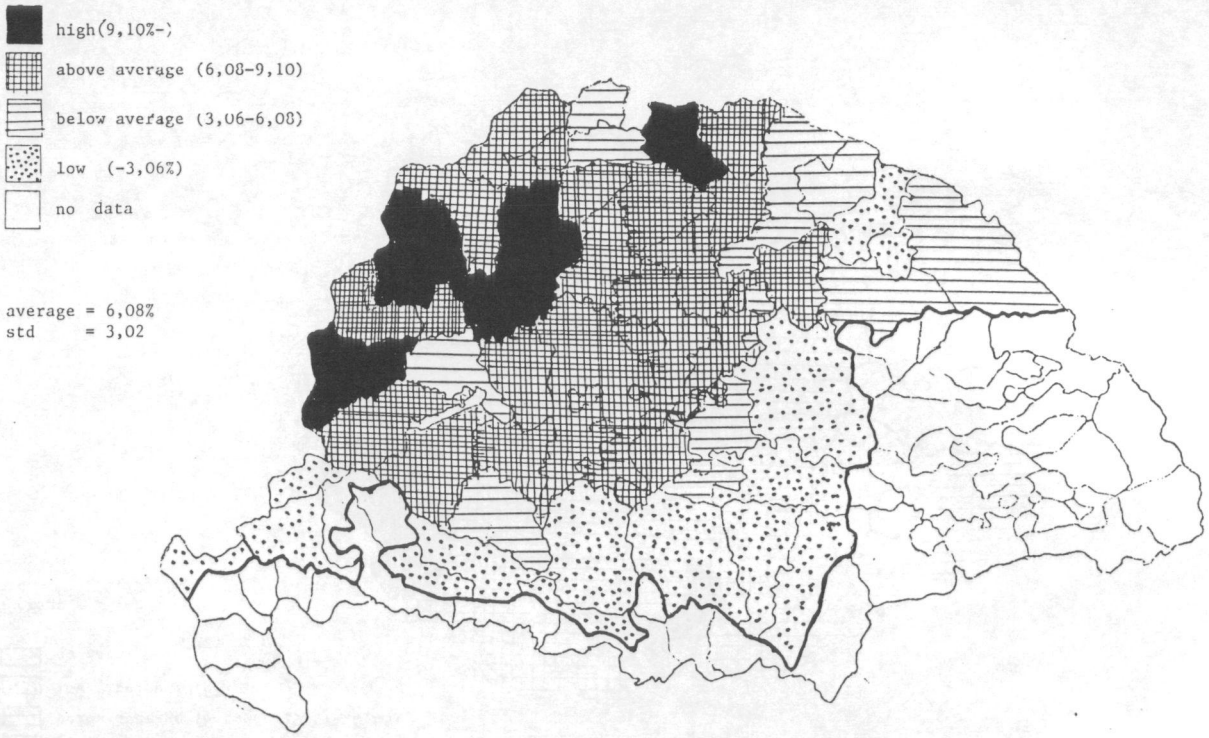
[8] Some published results of the first census were also used by John Hajnal ('System' pp. 469, 482) but he could not go into details in the course of his analysis being not familiar enough with the source and the related literature.

[9] Based on the literature of Hungarian historical demography and on our research experience - which does not register too many female first marriages before 15 and after 30 during the preindustrial period - we calculated our figures on the basis of the three first age groups of brides: below 21, 21-25 and 26-30.

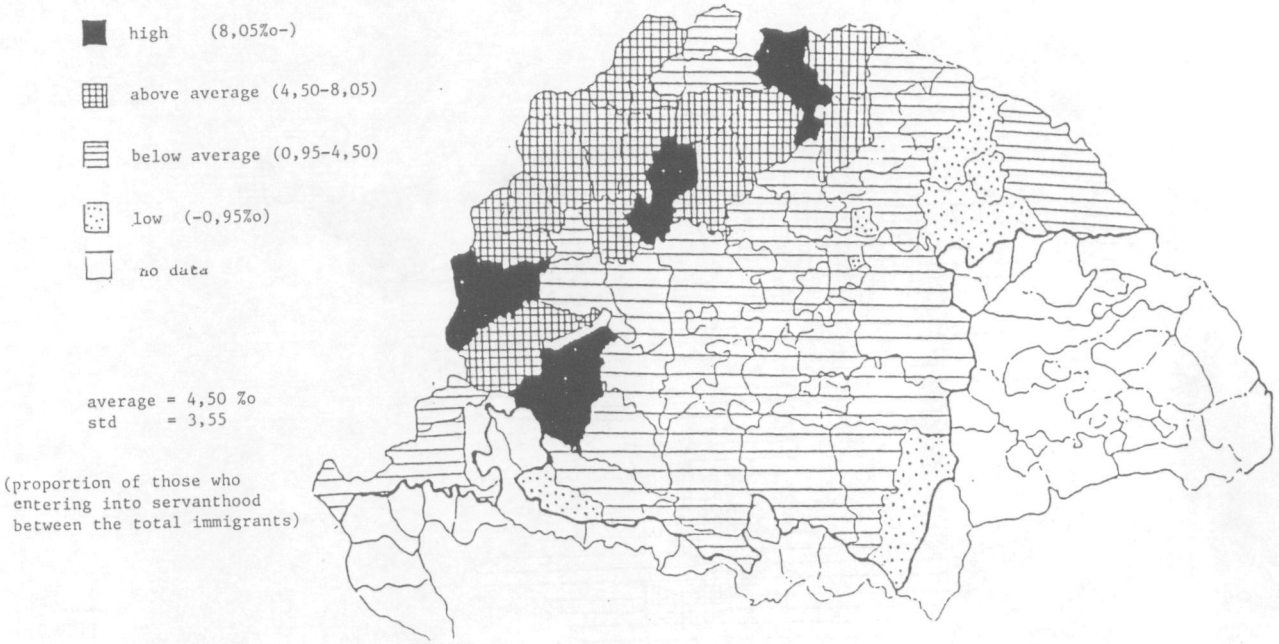
[10] The county values consist of only village and small market town populations, the royal free cities were separately conscribed with partly different questions (no age at marriage can be calculated for them).



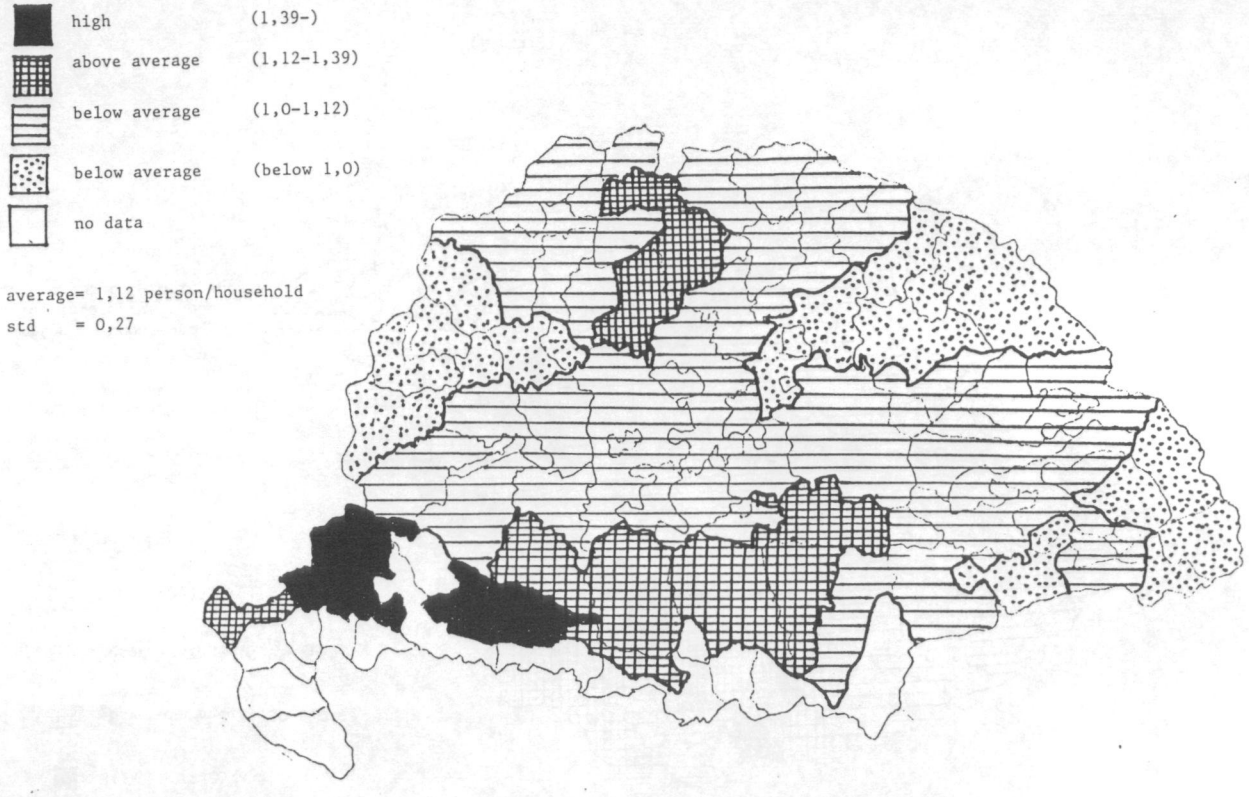

*Map 1:* Estimated female mean age at first marriage (commoners, 1777.1778)



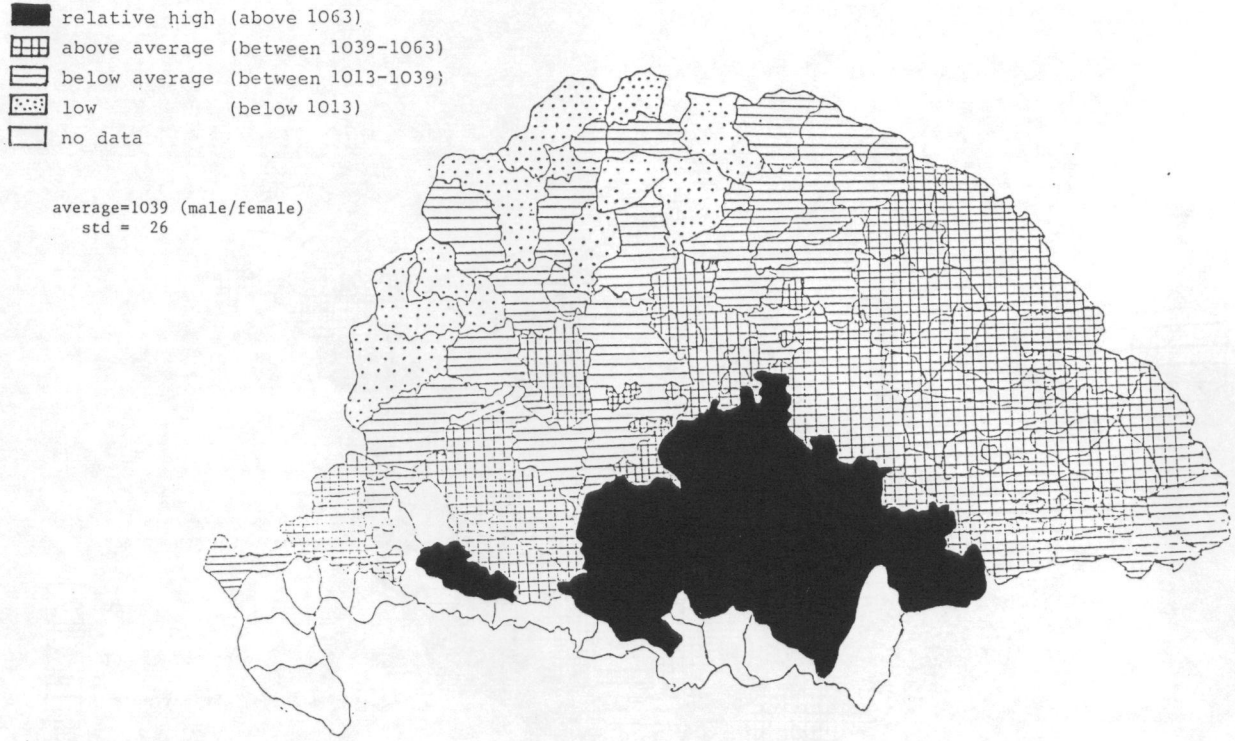

*Map 2:* Proportion of servants in total population (1778)



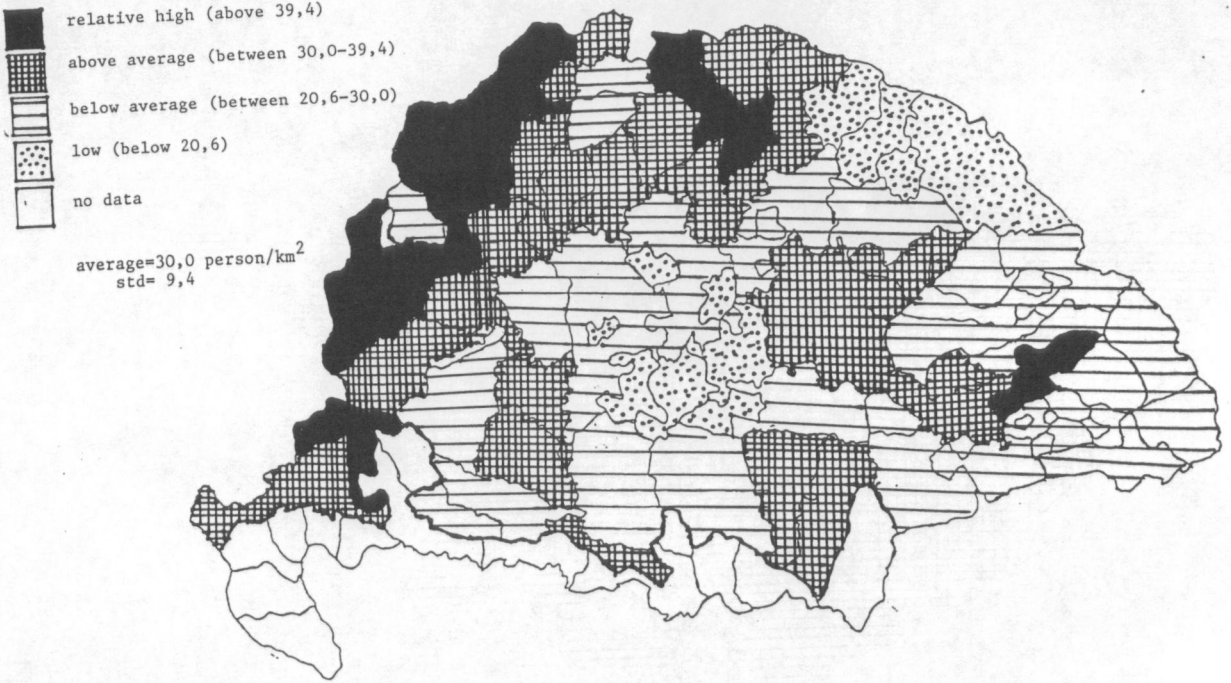

*Map 3:* Servant migration in Hungarian counties (1778)




*Map 4:* Average number of married men per household (1787)




*Map 5:* Gender ratio in 1787




*Map 6:* Population density in 1787

marriage. In the western and northern counties relatively late marriages with regard to the national standard and compared to other parts of Hungary are usual - around 21 years or more. In the central and eastern parts of the country the customary marriage age is round about the national average, and there is a fourth group of counties - situated in the eastern borderlands of the Great Hungarian Plain - where the average female marriage age was well below 20 - i.e. marriage is really contracted early thus fitting in with the theory of an eastern marriage model.

Contemplating the spreading of servants in the different counties (Map 2) the separation of the different regions is much clearer and sharper. In the western part of the country - dividing the territory of historical Hungary into two large regions by a south-western/north-eastern line - we can experience a Western European level of servant incidence: the proportion of servants among the total population is more than 6 percent in every county, at certain places it was around 10 percent, while in the south-eastern region - at the newly settled territories (we will clarify this later) and in Croatia - hardly ever existed hired servants on the farms.

This picture is reinforced by the data of servant migration (Map 3); the population conscription summaries of 1777/1778 consisting of the data of all the immigrants, and in which are recorded those who intended to enter into servanthood. In this case the regional division of the country is even much clearer because of the high turnover of servants - which, to all probability, is strongly depending on the contractual character of servanthood - but is typical only for a smaller western and northern territory of the country, not for the central counties of the plainland.

This is the situation where, in a minor form, we reproduced the Hajnal borderline within the frame of one country (by pushing the line a little bit towards the East). But if we try to localize those regions where the proportion of extended or joint family households was higher - this can be measured basing on the average number of married men per household extracted from the results of the first census - we will have a completely different picture (Map 4). The regions can be characterized according to the large number of joint families, and partly fit into the servantless and early marriage regions, but partly they do not. In an important part of the territory there is no high proportion of joint families where there should have been (eastern Hungary) and there is a joint family region in the north central region (with a rural population frequently keeping servants and entering into marriage sometime later) where they should not have been. The existence of smallest proportions of married males - i.e. the simplest households: in all probability dominantly nuclear family units - are characteristic not only for the western ('westernized') part of Hungary. There are some counties belonging to this category that are situated in the most backward counties settled by Ukrainians (Rusin) as well as Hungarian Seklers in eastern hilly regions. These maps and territorial

distributions suggest us that there cannot always be an absolutely clear and direct connection between the servanthood, the early marriage age and the incidence of joint family households.

The relationship between the mentioned elements of family and household in itself is complicated enough within a relatively undisturbed society. However, the Hungarian society could be called anything but undisturbed in the eighteenth century. During the previous centuries (between 1526 and 1699) an important - and changing - part of the country was under Turkish occupation. In the course of this period several wars, and in addition to the armies moving around, there was the plague which depopulated huge territories in central and southern Hungary. These relatively empty areas attracted many new settlers after the warfare period came to an end, and generated an enormous, several decades lasting immigration movement during the eighteenth century. From this mass migration movement resulted a distorted population (gender, age), ethnic and denominational composition and settlement structure in the country. Although the resettlement movements mostly ended in the mid eighteenth century the deformed population structure can still be seen clearly in the figures of the first census in 1787. E.g. the southern and eastern parts of Hungary have a high male surplus (Map 5) because of the immigration movements characterized by gender bias. The western and northern parts of the country - which remained under Christian rule and were not involved in the long lasting wars - were densely populated even at the end of that century (Map 6) although hundreds of thousands of their population surplus had already left these counties during the previous decades and formed settler islands in the central and southern territories. The ethnocultural map of the country too became much more colourful because of the internal and international waves of migration but at the moment we have no statistically correct dataset to be able to project their distribution into the right space.

### 3.3 Statistical analysis of variables

The composition of the household in the past has been the subject of a considerable number of quantitative historical investigations both on micro and macro level during recent decades. In the case of preindustrial Hungary, the analysis of such studies has mostly be done with simple statistical procedures: proportions, cross-tabulations. While a number of such studies have made important contributions to the topic, their dependence on a single and simple method of statistical analysis raises a question common in quantitative research, namely, to what extent empirical results and their modest analysis are capable to produce valuable interpretations and explanations to the specific problems exposed.

In the next few paragraphs we try to use somewhat more advanced methods to test the previous suggestions based on our regional distributions. Two

different techniques will be employed in order to get an indication of the quality of the results to alternative specifications: simple zero order correlations and multiple regression analysis".

Five measurable variables were used to test the family and household formation system of preindustrial Hungary taking into consideration the age structure, age at the time of marriage, family structure, incidence of servanthood, and further three variables to test the general settlement conditions. (The variables used in the analysis are defined on Table 1.) The latter one is important in the case of Hungary because there were special conditions in this country during the eighteenth century as we have mentioned earlier. In the course of analysis first we made the simple lineal correlations then we calculated the multiple regression. In the first step the household composition was specified as a dependent variable to be a function of the other variables. In the next step we tried to change the dependent variables - taking as variable the incidence of servanthood then the early marriage instead of the family composition - checking again and again the quality and interpretative forces of the regressions. In the calculations we partly used different figures than during the mapmaking. For the interest of homogeneity we mostly used proportions and the majority of our figures refer to males - as for them there are usually more precise data in the old conscriptions and censuses. We also had to reduce the geographical territory: Croatia and three counties in the South (the so called 'Banat') were excluded from the analysis because of their scanty and unstable data.

The main - and preliminary - analysis of the calculations is summarized below. If we look at the intercorrelations of the basic factors (Table 2.) then we can see that our variables can practically be divided into two separate groups. The variables of early marriage (YOUNGMAR), gender structure (GENDER), as well as the impact and consequence of the Turkish rule: the population and agrarian density (POPDENS and AGRDENS), the involvement in the wars of the sixteenth and seventeenth centuries (DEVAST) are relatively strongly intercorrelated with each other. Nearly all of their values are significant, and close to two thirds of the figures are over 0,4 (i.e. they are significant at p=0,01). Outside this group there are partly scattered variables that are in a controversial connection with the others. The variable of family and household structure (FAMCOMP) is strongly correlated only with the early marriage (YOUNGMAR) and slightly with the gender structure (GENDER). The strong connection between the complex family structure and early marriage was expected - this fits into the Hajnal theory - but between the servanthood (SERVANT) and the family composition (FAMCOMP) there is no significant correlation (not even a negative one) which is somewhat surprising. The variable characterizing the strength and incidence of servantkeeping

" I owe many thanks to my colleagues Emil Valkovics and Lâszlô Hablicsek for their invaluable help in the calculations.

*Table 1:* Demographic characteristics of counties of Hungarian Kingdom. (Variables used in the analysis.)

| Variable | Mean value[a] percentage | Definition |
|---|---|---|
| YOUNGMAR | 30,8 | proportion of married males below 21 among the total marriages contracted below age 30 (1777-78) |
| GENDER | 50,8 | proportion of males within the total population (1787) |
| FAMCOMP | 103,8 | number of married males per 100 households (1787) - measure of household complexity |
| SERVANT | 62,0 | proportion of newly arrived persons entering into servanthood among the total immigrants (1777-78) |
| POPDENS | 30,7 | number of inhabitants per $km^2$ (1787) |
| AGRDENS | 62,7 | number of inhabitants per $km^2$ of agricultural territory - (total land-forestland) (1787) |
| YOUNGAGE | 52,8 | proportion of 'sons' and 'heirs' in the total male population of the census (1787) |
| DEVAST | 0,4 | dummy: 1 if formerly Turkish occupied territory, 0,5 if bordercounty (constantly suffering from warfare) |

Number of investigated counties: 43[b]

[a] Values are county totals, royal free towns excluded. Only the figures for Christian population used, the Jews (1,0 percentage) were excluded because of their demographic characteristics given incompletely.

[b] One county (Ugocsa), the Banat and Transylvania have not enough comparable data - they were excluded from the analysis.

(SERVANT) is in a moderate connection with the majority of the other ones used except of the two which were expected: the age structure (YOUNGAGE) and the family and household structure (FAMCOMP) - here again we cannot see any significant correlation. The incidence of servanthood looks nearly independent from the family and household structure both in strength and in their territoriality (as is to be on the Maps 2-4). The low value of correlation

*Table 2:* Zero order correlations among variables

| Variables | YOUNGMAR | GENDER | FAMCOMP | SERVANT | POPDENS | AGRDENS | YOUNGAGE |
|---|---|---|---|---|---|---|---|
| YOUNGMAR | | | | | | | |
| GENDER | 0,549 | | | | | | |
| FAMCOMP | 0,571 | 0,330 | | | | | |
| SERVANT | -0,432 | -0,463 | -0,073 | | | | |
| POPDENS | -0,464 | -0,658 | -0,181 | 0,332 | | | |
| AGRDENS | -0,193 | -0,652 | 0,129 | 0,368 | 0,641 | | |
| YOUNGAGE | 0,216 | 0,097 | -0,019 | -0,016 | -0,088 | 0,092 | |
| DEVAST | 0,325 | 0,694 | 0,221 | -0,313 | -0,405 | -0,522 | 0,091 |

two tailed significance

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| YOUNGMAR | | | | | | | |
| GENDER | 0,000 | | | | | | |
| FAMCOMP | 0,000 | 0,031 | | | | | |
| SERVANT | 0,004 | 0,002 | 0,643 | | | | |
| POPDENS | 0,002 | 0,000 | 0,244 | 0,030 | | | |
| AGRDENS | 0,216 | 0,000 | 0,409 | 0,015 | 0,000 | | |
| YOUNGAGE | 0,164 | 0,538 | 0,904 | 0,920 | 0,576 | 0,556 | |
| DEVAST | 0,033 | 0,000 | 0,155 | 0,041 | 0,007 | 0,000 | 0,560 |

___ significant on p = 0,01 level
---- significant on p = 0,05 level

between SERVANT and YOUNGAGE variables also suggest that servanthood in eighteenth century Hungary in general was no life cycle phenomenon. The variable showing the proportion of young population (YOUNGAGE) is practically independent from nearly all other variables - reinforcing our expectations that all preindustrial populations are dominated by the high proportion of young generations not depending from the other factors (marriage, migration, family structure, etc.).

*Table 3:* Results of multiple regression

| Dependent variable | Multiple | | Important variables | |
|---|---|---|---|---|
| | R | R2 | + | - |
| FAMCOMP | 0,7188 | 0,5166 | YOUNGMAR AGRDENS | |
| SERVANT | 0,5707 | 0,3257 | YOUNGMAR | |
| YOUNGMAR | 0,7704 | 0,5935 | FAMCOMP | SERVANT |

The eight variables taken together will bring some relatively interesting results (Table 3). The strength of the multiple regression is relatively good in those cases where the family and household structure is the dependent variable - the other seven variables account for 52 percent of the variance in household type. (The most important positive variables are the YOUNGMAR and the AGRDENS - the custom of early marriage has a strong, and overpopulation (the high agricultural density) has a moderate positive impact on the complexity of forms of coresidence. If the dependent variable is the servanthood (SERVANT) the analysis gives much worse results - two thirds (i.e. the majority) of the variance in servantkeeping depend on variables not involved in this investigation (probably these are economic and cultural factors). The only important - and negative - variable for the servanthood is the YOUNGMAR i.e. the early marriage custom has a moderate negative impact on servantkeeping.

An intriguing result could be observed in the case of early marriages when YOUNGMAR is the dependent variable. The interpretative force of our analysis is here the most significant - nearly 60 percent of the variance can be explained with the help of our eight variables. The controversial role of FAMCOMP and SERVANT variables is really interesting in this case. Our investigations suggest that the complexity of a coresidence form (the weight of the joint and extended families) has a strong positive impact on the custom of early marriage, while the level of servantkeeping has a negative impact.

Let us try to interpret our results. According to the multiple regression we can suppose a relatively strong positive connection between the custom of early marriage and the existence of complex coresidence forms and a moderate negative one between the servant keeping and the early marriage which fits into the Hajnal theory. However, the analysis suggests some problems in the theory, too. The relation between servantkeeping and early marriage is only moderate as altogether the majority (two thirds) of the interpretative factors must lie outside the circle we investigated. No real connection (not even a negative one) exists between the family composition and the servantkeeping, but the agricultural density has a slightly positive impact on the existence of the more complex coresidence forms. So, behind the significance of the customs of coresidence and marriage patterns as well as the incidence of servantkeeping there must be several distinct factor groups: demographic, economic and cultural ones. We especially have to suspect that there is a considerable influence of cultural factors which cannot be analyzed here. In our case this concerns both the impact on local customs and the distribution of the distinctive ethnic and denominational conditions in the different territories. The regional picture and range of these conditions were partly dependent from the earlier settlement and population structure and composition as well as the geographic situation and the neighbourhood of the given local society, partly from the impact of the Turkish wars which again changed the above mentioned conditions slightly - e.g. in South Hungary. The long period of Turkish occupation was not only decisive for the ethnocultural composition of the country but even became an economic and demographic factor. The warfare and the Turkish - Habsburg/Hungarian borderline partly blocked the internal mobility of the surplus population between the hilly and the plain areas until the end of the eighteenth century which resulted in an overpopulation (high agricultural density) and larger families in the former, and an underpopulation and smaller families in the latter territories.

However, generalizations in view of these findings should be approached with considerable caution. Even the eight variables are poor and insufficient to measure the complexity of the socio-demographic background of the household system of contemporary Hungary. At the moment we cannot really estimate the different cultural factors (the ethnic and denominational composition, not to mention the local customs of marriage, and inheritance). It is necessary to mention too that our county level dataset gives a relatively rough approach and low case number for the eighteenth century society of preindustrial Hungary.

Nevertheless, based on the above results we tried to describe and localize the tentative household types of rural Hungary at the end of the eighteenth century. First, there is a region which could be characterized by a near to Western European type of household structure - perhaps it is not quite accidental that these counties are situated on the western borders of Hungary. They could be described by a moderately low age at marriage and high incidence of servantry.

Unfortunately, at the moment, because of the missing case studies, we do not know how important was the share of the lifecycle servanthood among them[12]. The majority of the households were relatively small and simple (nuclear family households) but occasionally there also existed 'stem families' among them. One remark should be devoted to the age of marriage. Although these territories could be characterized by the highest values in Hungary, the marriage age here still was much earlier than in the core area of West Europe. This region with its partly German, partly Hungarian, and partly Slovak population adapted to the Central European conditions and possibilities forming coresident units which we could call 'Central European nuclear family' and 'Central European stem family' households.

An important part of historical Hungary - first of all the southern borderlands - could be characterized by such large and complex structures as the ones described by scholars analysing the contemporary Russia and the Balkan (Hammel 1975, Todorova 1993). In the south several families were often living and working in one group. It is interesting to note that these territories which are situated in the neighbourhood of the Balkan, and whose inhabitants to an important proportion were Serbs or Croats by origin, immigrated into Hungary during and after the Turkish rule. These people kept their previous customs and contracted very early marriages and lived in large 'zadruga' type joint family households. One could rarely find servants between them - their farms and labour groups were usually kin based.

The fourth type of households existing in Hungary at the end of the eighteenth century may be called as a 'Central European joint family'. These primary groups existed in the central and eastern parts of the Upland (today Slovakia and Western Ukraine) being not so large and complex. They had a mixed character combining some features of the joint family and the servant keeping and practised a somewhat later marriage pattern in comparison to the south.

A fifth type probably existing could be named as 'Central European frontier family household'. This type consisted partly of internal settlers (Hungarians moving down from the more populous territories to the empty southern plainlands) and partly of immigrants coming from abroad. An important proportion of them came from Germany and Austria - following the reconquering of the formerly Turkish occupied territories. The coresident groups of this household type were usually small and simple, hardly any servants living in them and also characterized by a very early marriage age. In other words, in their frontier situation as well as in their demographic characteristics the families of non-southern Slavic inhabitants of the plainlands of Central and South Hungary showed similarities to Colonial North America[13].

[12] **The difficulties are in the fact that until now the household structure of the western border which consisted in a relative high proportion of not Hungarian but German (Austrian) peasants is not very thoroughly analyzed yet. The largest part of that area now lies in Austria (called 'Burgenland').**

Of course, there might be other possible interpretations of the results found here too. More information on the structure and characteristics of marriages, families and households of Hungary would be necessary to determine whether these are relevant cases. Some are already predictable. Several mountain peasant groups (Slovaks, Poles, Rumanians, Rusins (Ukrainians) and Seklers[14]) working and living in the Carpathians as shepherds and new settlers on forest meadows cannot really be separated on the county level, and we do not know too much about their marriage patterns, household and family conditions. Supposedly there were measurable differences between the family and household structures of different social layers[15] - peasants with property of land, cottagers, rural artisans and the country gentry[16]. However, one fact can probably be seen. Both the connection of the analyzed factors and variables of household formation and their regional strength and territorial distribution in Hungary cannot be interpreted unanimously and adequately with the rules established by John Hajnal. In the first place, the relationship between the demographic factors used in the 'System' is not always unambiguous. Secondly, the demographic factors do not always suffice to describe and explain the functioning of the different household types. We have to interpret the household patterns as socio-demographic models - we have to take into consideration several other non-demographic factors behind the types of households of contemporary Hungary. Thirdly, the weight and importance of the factors and relationships also could change in time - e.g. we can suspect that because of the devastations of the Turkish wars and the following resettlement process the rural society in Hungary became more 'easternized' in certain regions in the course of the eighteenth century. Servantkeeping in Hungary seems more or less independent from the household systems and, last but not least, the regional distribution of this phenomenon cannot be described with the help of a single and simple dividing line (cf. Hajnal 1965).

[13] The difference between the two regions was, first of all, not in their contemporary situation (cf. Smith 1993, Haines 1996) but in their later development. The frontier in Hungary closed much earlier than in North America, well before the industrialization of the country at the turn of the eighteenth and nineteenth centuries. Also the host society was different around the new settlers who were forced to adapt not only to the demographic but also to the relatively backward economic, social and political environment. Perhaps it does not cause a surprise if we recognize a shift towards the joint family after the closing of the frontier (Farag6 1977).

[14] The first two groups are mostly Roman Catholics by denomination - part of the Slovaks could be Lutheran - , the later followed the Greek rite (Greek Catholic or Greek Orthodox). The Seklers - a Hungarian speaking ethnocultural group in eastern Transylvania - are partly Calvinists, partly Roman Catholics.

[15] In this question we disagree with John Hajnal. He wrote in the 'System' that 'all layers of the rural societies dealt with in this paper, from the rich to the very poor, followed the same household rules' (pp. 454-455). We are not so convinced about it - further investigations are needed.

[16] The latter could be also important in Hungary because of its numerousity. According to the first census the proportion of the noblemen were near to 5 percent in the national level, but in certain regions this social layer surpassed 15 percent.

## 4. Conclusions in short

At the moment we have not too many choices. Either we are waiting for a new general theory or we try to use the important and useful elements at hand and think about another type of systems. Relating to the 'grand theory' - as we mentioned earlier - there is still the unsolved problem of the complicated character of preindustrial marriage, family and household mixing different factors and processes of society, economy and demography before the venturesome model-builders. Another solution would be - and for us this seems a more sympathetic direction - to accept Philip Kraeger's view: do not think in universalistic regimes but adapt a regional and temporal frame of reference (Kraeger 1986).

Maybe that at first this looks frightening for some readers if we have to take into account the existence of more than one or two household formation systems within the frame of one country (perhaps even a region) - see the case of Hungary, Italy or Spain (Benigno 1989) - but we do not think that it means several hundreds of household and marriage formation systems instead of the two, proposed by Hajnal. It remains certain that the preindustrial societies of the World could not be characterized on a simple dichotomous way[17] nevertheless, we do not think that the number of working demographic regimes are too many. We just simply have to work on the demographic history of the Globe more thoroughly, leaving behind the parochial north-western European centred view and the effort of generalizing too early.

The above ideas may be sketchy. Nevertheless, they point out the need for more theoretical work. But less abstract theorizing is necessary too: theorizing that is more closely tied to European and non European data, western and eastern patterns and to the human experiences associated with marriage and household formation and dissolution, exits and entrances.

Returning to the starting point, to John Hajnal's household formation system model we must be really grateful to the author for his brilliant twin essay - he fulfilled completely the most important and basic task of a theoretical work. He interpreted relationships, processes, connected bundles of factors seemingly far away from each other and provoked clarifying debates. He also generated - and probably he will still do - several researches. However, John Hajnal's futuristic

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[17] **Otherwise if we look on another large investigation of (historical) demography, the final analysis of the European Fertility Project (Princeton) about the fertility decline we can find here in many senses a similar picture. Although the authors who wrote the summary were also attracted towards the dichotomous marriage pattern picture - their late nineteenth century dataset (1870-1900) allows to suppose the existence of at least four zones of marriage based on the index of currently married women (Im) and the married fertility (Ig). Of course the boundaries of the zones did not always follow the political ones and not all of the populations could be even fitted into these four zones. E.g. France (except Bretagne) and again central and southern Hungary did not completely fit into either of the zones (Coale-Watkins 1986).**

prophecy came true during the passed three-and-a-half decades: 'It may turn out, when statistical data on households for many more populations have been analyzed, that it is not fruitful to group together all the populations exhibiting those household formation rules that for the purposes of this paper are the defining characteristics of joint household systems' ('System' p. 455).

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